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Sporidesmiopsis malloti sp. nov. and new records from southern China

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Abstract — *Sporidesmiopsis malloti* is described and illustrated from specimens collected from dead branches of *Mallotus hookerianus* in Hainan Province, China. The new fungus is characterized by macronematous conidiophores with branches at the apex and conidiogenous cells arising on both stipe and branches with 3–7-euseptate conidia. A key to *Sporidesmiopsis* species is provided. *Gangliostilbe malabarica* and *Vamsapriya indica* are newly recorded from China.

Key words — conidial fungi, taxonomy

Introduction

Subramanian & Bhat (1989) erected the genus *Sporidesmiopsis* with *S. malabarica* Subram. & Bhat as type species. The genus is distinguished from *Sporidesmium* Link by its mononematous conidiophores with apical branches and conidiogenous cells that occur on both stipe and branches (Wongsawas et al. 2008). Four other species have been included in the genus: *S. dennisii* (J.L. Crane & Dumont) Bhat et al., *S. goanensis* Bhat & W.B. Kendr., *S. guangxiensis* J.W. Xia & X.G. Zhang, and *S. zhejiangensis* Wongs. et al. (Bhat & Kendrick 1993, Wongsawas et al. 2008, Xia et al. 2014). However, Bhat & Kendrick (1993) synonymized *S. malabarica* under *S. dennisii,* and with the transfer of *S. zhejiangensis* to *Ellisembiopsis* based on its distoseptate conidia (Santa Izabel et al. 2013), only three species are currently accepted in *Sporidesmiopsis*.

We propose a new *Sporidesmiopsis* species, collected on dead branches from Hainan Province, China. We also note two other hyphomycete species on dead branches from Guangdong Province as newly recorded from China.

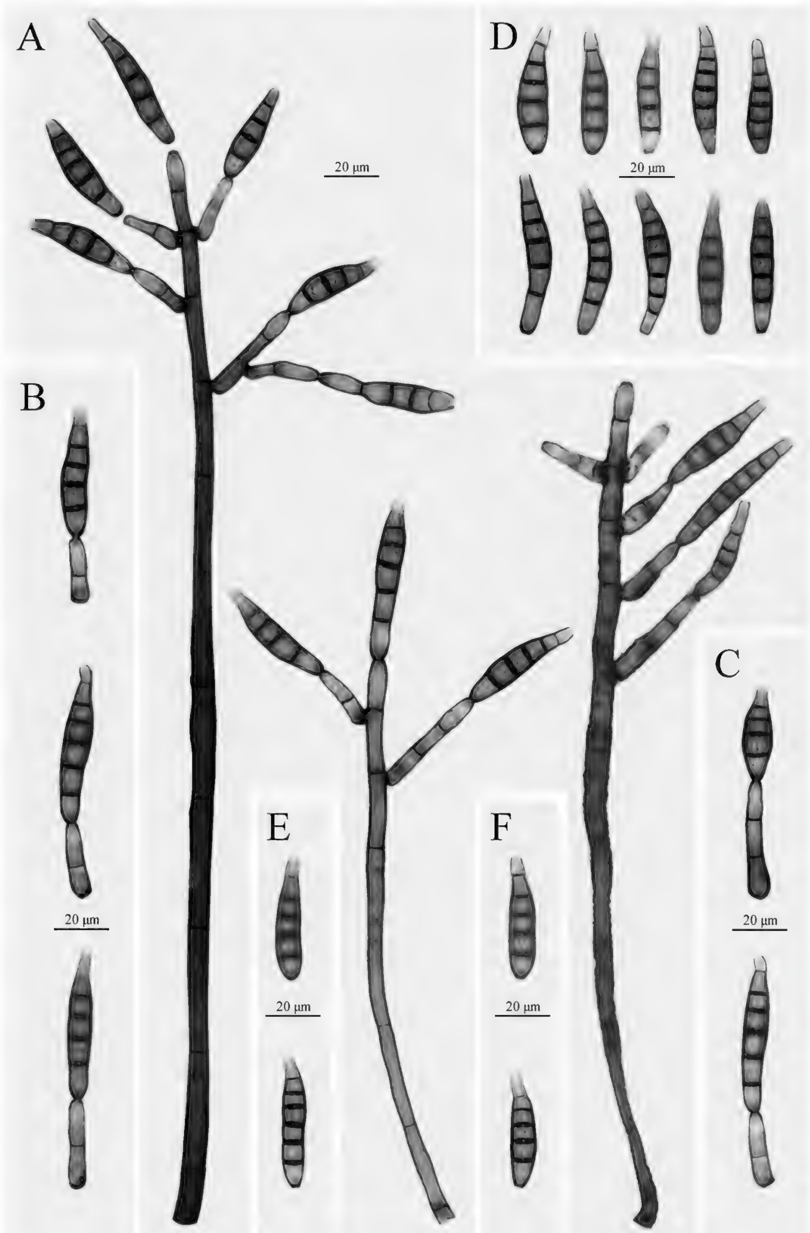

Fig. 1. *Sporidesmiopsis malloti.* (ex HSAUP H6426): A. Conidiophores, conidiogenous cells, and conidia. B, C. Conidiogenous cells and conidia. D–F. Conidia.

Sporidesmiopsis malloti J.W. Xia & X.G. Zhang, **sp. nov.** FIG. 1

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Differs from *Sporidesmiopsis goanensis* and *S. guangxiensis* by its larger conidia and from *S. dennisii* by its smaller conidia with fewer septa.

TYPE: China, Hainan Province: Jianfengling, on dead stems of *Mallotus hookerianus* (Seem.) Müll. Arg. (*Euphorbiaceae*), 22 Apr. 2014, J.W. Xia (**Holotype**, HSAUP H6426; **isotype**, HMAS 245586).

ETYMOLOGY: in reference to the host genus *Mallotus*.

COLONIES on the natural substrate effuse, brown to dark brown, hairy. Mycelium superficial and partly immersed, composed of septate, pale brown, smooth hyphae, 1–2 µm diam. CONIDIOPHORES distinct, single, branched, erect, straight or slightly flexuous, cylindrical, smooth, thick-walled, brown to dark brown, 7–12-septate, 200–380 × 6–9.5 µm. CONIDIOGENOUS CELLS monoblastic, integrated and discrete, narrowly doliiform, truncate at the apex after conidium secession, 20–40 × 4.5–8 µm. CONIDIA solitary, dry, obclavate to fusiform, base truncate, apex rounded, pale brown to brown, 35–60 × 8.5–11.5 µm, 3–7-euseptate.

COMMENTS – *Sporidesmiopsis malloti* bears some resemblance to *S. goanensis* and *S. guangxiensis* in conidial shape. However, the conidia of *S. goanensis* are smaller (20–30 × 5–7 µm, 3–4-euseptate; Bhat & Kendrick 1993), and the conidia of *S. guangxiensis* are smaller (32–40 × 6–7.5 µm, 5–6-euseptate) and have a subhyaline to hyaline apical cell (Xia et al. 2014).

Key to species of *Sporidesmiopsis*

1. Conidia >70 µm long, 10–15-euseptate .... *S. dennisii*
1. Conidia <70 µm long, <10-euseptate 2

2. Conidia >30 µm long 3
2. Conidia 20–30 × 5–7 µm, 3–4-euseptate .... *S. goanensis*

3. Conidia 32–40 × 6–7.5 µm, 5–6-euseptate .... *S. guangxiensis*
3. Conidia 35–60 × 8.5–11.5 µm, 3–7-euseptate .... *S. malloti*

Gangliostilbe malabarica Subram. & Bhat, Kavaka 15: 54, 1989 ["1987"]. FIG. 2

COLONIES on natural substrate effuse, dark brown, hairy. Mycelium mostly immersed in the substratum. SYNNEMATA arising singly, rarely in pairs, on the surface of the substratum, erect, with the stipes comprising compact aggregations of parallel hyphae, terminating in fertile heads, with stipes dark brown and fertile heads brown, 200–550 × 20–40 µm. CONIDIOPHORES branched, percurrently extending at the tip up to 4 times, septate, smooth, pale brown, divergent in the apical part of the synnema forming a loose clavate head up to 70 µm wide, and 25–35 µm high. CONIDIOGENOUS CELLS producing conidia singly at the tip, integrated, subhyaline, smooth, 8–12 × 2.5–3.5 µm.

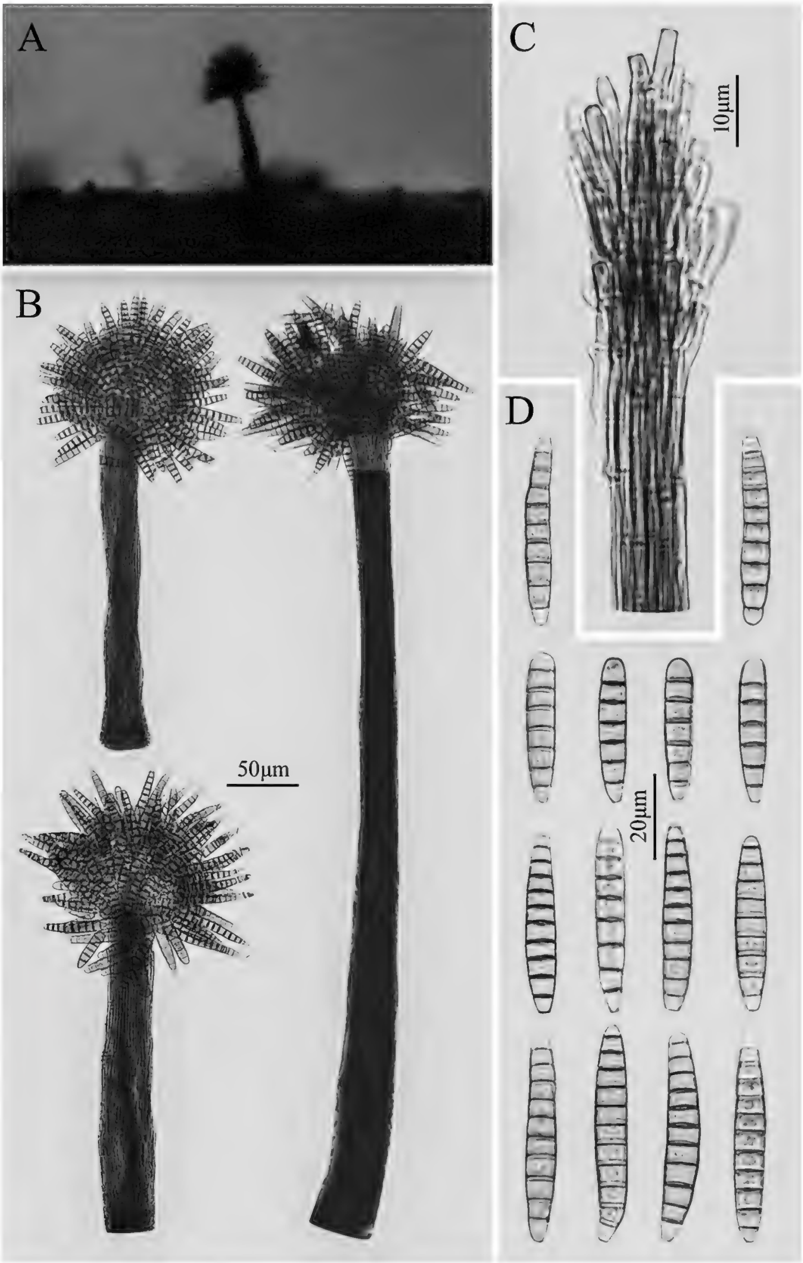

Fig. 2. *Gangliostilbe malabarica.* (ex HSAUP H6398):
A, B. Synnema. C. Apex of synnema. D. Conidia.

Conidia pale brown, obclavate to fusiform, elongated, rounded at the tip, apical cell sometimes surrounded by a globose mucilaginous tunica, truncate at the base, broader in the middle, 6–11-euseptate, 30–55 × 6–8 µm.

Specimen examined: CHINA, Guangdong Province: Baiyun Mountain, on dead stems of unidentified broadleaf tree, 28 May 2013, J.W. Xia (HSAUP H6398; HMAS 245587).

Comments – The genus *Gangliostilbe* Subram. & Vittal, with *G. indica* Subram. & Vittal as the type species, was proposed in Vittal (1976) and characterized by solitary, obovoid, ovoid, or fusiform conidia borne on integrated, terminal, monoblastic conidiogenous cells on synnematous conidiomata. Five species have been described in this genus (Vittal 1976, Bhat & Sutton 1985, Subramanian & Bhat 1989, Mercado-Sierra et al. 1997, Ma et al. 2014). *Bactrodesmium longisporum* is similar to *G. malabarica* but is distinguished by its sporodochia that are scattered, punctiform, and black and a conidial apex that is often enveloped by a thin spherical mucilaginous tunica (Ellis 1976). *Gangliostilbe malabarica* is reported here for the first time from China. The Chinese specimen fits well with the protologue description, except that the conidia of the Indian type collection have more septa (up to 17; Subramanian & Bhat 1989).

Vamsapriya indica Gawas & Bhat, Mycotaxon 94: 150, 2006 ["2005"]. Fig. 3

Colonies on natural substrate effuse, dark brown to black. Mycelium mostly immersed in the substratum, composed of subhyaline, septate, branched, smooth hyphae, 2–3 µm wide. Synnemata erect, rigid, dark brown, composed of compact parallel conidiophores, 400–600 × 15–30 µm. Conidiophores distinct, dark brown, smooth, septate, branched, 3–4.5 µm wide. Conidiogenous cells monotretic, non-cicatrized, integrated or discrete, terminal, clavate, slightly curved toward the exterior, 15–20 × 3–4.5 µm. Conidia dry, catenate, acrogenous, brown, smooth, simple, cylindrical, vermiform, 2–16-euseptate, constricted at the septa, 15–110 × 4–6 µm, developing in acropetal chains; terminal conidia rounded at the apex, slightly truncate at the base; other conidia slightly truncate at both ends.

Specimen Examined: CHINA, Guangdong Province: Baiyun Mountain, on dead stems of unidentified broadleaf tree, 28 May 2013, J.W. Xia (HSAUP H6386; HMAS 245588).

Comments – There are only two accepted taxa of *Vamsapriya*, *V. indica* and *V. mahabaleshwarensis* Pratibha & Bhat (Gawas & Bhat 2006, Pratibha & Bhat 2008). *Vamsapriya indica* is reported here for the first time from China. The Chinese specimen is similar to the protologue description, but the Indian type collection has longer synnemata (700–870 µm) and a slightly lower range of conidial lengths (10–80 µm; Gawas & Bhat 1989).

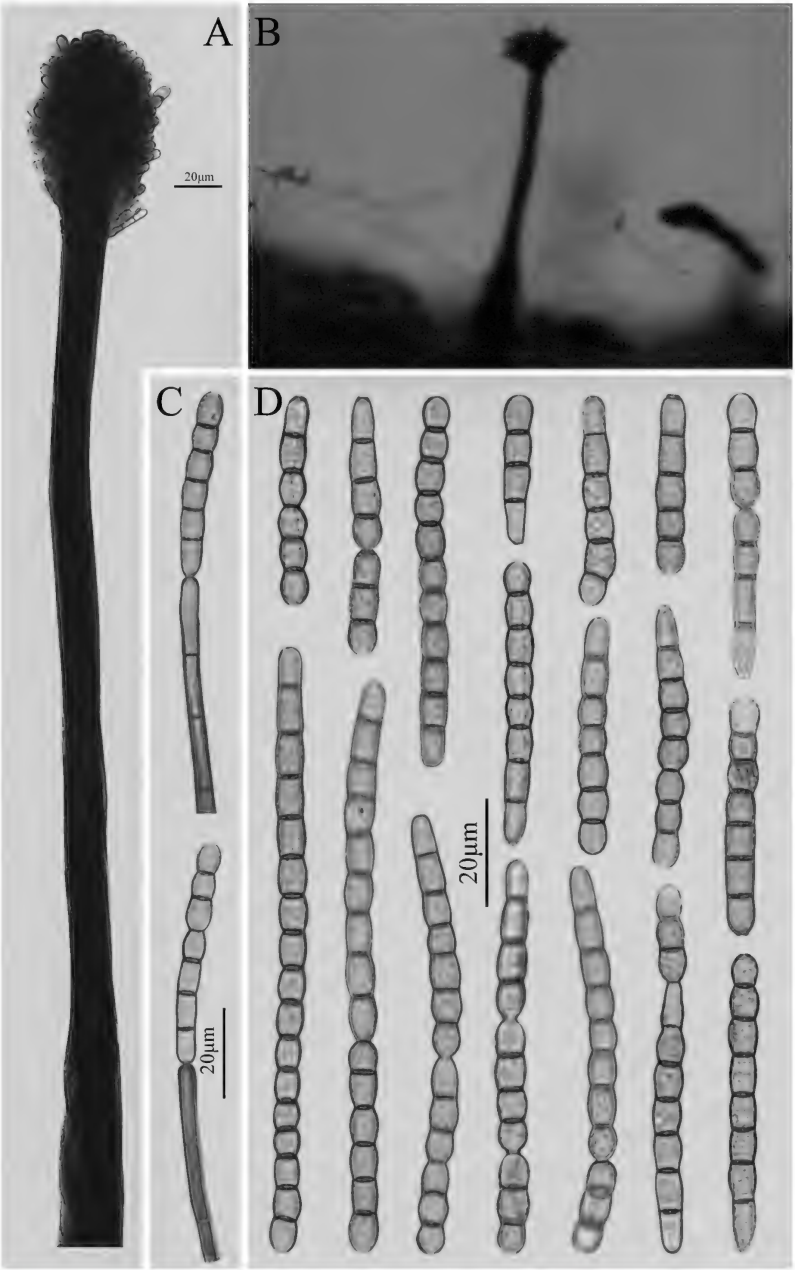

Fig. 3. *Vamsapriya indica*. (ex HSAUP H6386):
A, B. Synnema. C. Conidiogenous cells and conidia. D. Conidia.

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